

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2004-19815; Directorate Identifier 2004-NM-215-AD; Amendment 39-13894; AD 2004-25-06]**

**RIN 2120-AA64**

**Airworthiness Directives; Boeing Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, and 747-300 Series Airplanes; and Model 747SP and 747SR Series Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule; request for comments.

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**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for certain Boeing Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, and 747-300 series airplanes; and Model 747SP and 747SR series airplanes. This AD requires revising the airplane flight manual to prohibit operation of the autopilot/flight director in command mode with performance management system selected on the speed mode switch during cruise in reduced vertical separation minimum (RVSM) airspace. This AD is prompted by reports of unexpected autopilot disconnects induced by the passing of another airplane within 1,000 feet below the airplane while they were operating in RVSM airspace. We are issuing this AD to prevent unexpected disconnect of the autopilot during operation in RVSM airspace due to close passage of another airplane, which may result in altitude deviation, and consequently, could lead to a possible mid-air collision or a near miss with aggressive evasive action (by either or both airplanes). Aggressive maneuvering at cruise altitudes and airspeeds could result in loss of control of the airplane and/or injury to passengers and crew.

**DATES:** Effective December 22, 2004.

We must receive comments on this AD by February 7, 2005.

**ADDRESSES:** Use one of the following addresses to submit comments on this AD.

DOT Docket Web site: Go to <http://dms.dot.gov> and follow the instructions for sending your comments electronically.

Government-wide rulemaking Web site: Go to <http://www.regulations.gov> and follow the instructions for sending your comments electronically.

Mail: Docket Management Facility; U.S. Department of Transportation, 400 Seventh Street SW., Nassif Building, room PL-401, Washington, DC 20590.

Fax: (202) 493-2251.

Hand Delivery: Room PL-401 on the plaza level of the Nassif Building, 400 Seventh Street SW., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this AD, contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207.

You can examine the contents of this AD docket on the Internet at <http://dms.dot.gov>, or in person at the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street SW., room PL-401, on the plaza level of the Nassif Building, Washington, DC. This docket number is FAA-2004-19815; the directorate identifier for this docket is 2004-NM-215-AD.

### **Docket Management System (DMS)**

The FAA has implemented new procedures for maintaining AD dockets electronically. As of May 17, 2004, new AD actions are posted on DMS and assigned a docket number. We track each action and assign a corresponding directorate identifier. The DMS AD docket number is in the form "Docket No. FAA-2004-99999." The Transport Airplane Directorate identifier is in the form "Directorate Identifier 2004-NM-999-AD." Each DMS AD docket also lists the directorate identifier ("Old Docket Number") as a cross-reference for searching purposes.

### **Examining the Dockets**

You can examine the AD docket on the Internet at <http://dms.dot.gov>, or in person at the Docket Management Facility office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Management Facility office (telephone (800) 647-5227) is located on the plaza level of the Nassif Building at the DOT street address stated in the ADDRESSES section. Comments will be available in the AD docket shortly after the DMS receives them.

**FOR FURTHER INFORMATION CONTACT:** Technical information: Samuel Slentz, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 917-6483; fax (425) 917-6590.

Plain language information: Marcia Walters, [marcia.walters@faa.gov](mailto:marcia.walters@faa.gov).

**SUPPLEMENTARY INFORMATION:** We have received reports of two separate incidents in which a Boeing Model 747-200 airplane equipped with a performance management system (PMS) had an unexpected autopilot disconnect induced by the passing of another airplane within 1,000 feet below the airplane while operating in reduced vertical separation minimum (RVSM) airspace. In both incidents, the PMS-equipped airplane lost 300 to 400 feet of altitude, causing it to come within approximately 650 feet of the other, lower aircraft (starting at 1,000 feet separation), and received a traffic collision and avoidance system (TCAS) resolution advisory (RA) with instructions to "climb, climb."

The PMS installed in certain Boeing Model 747 airplanes has an interlock that is activated with radar altitude. This interlock disconnects the autopilot upon receipt of a valid radar altitude signal of less than 2,500 feet. Because there is no means to accurately determine how the airplane is trimmed when using the PMS, it cannot be predicted which direction the airplane will fly or how far it will depart from an assigned altitude. Unexpected disconnect of the autopilot during operation in RVSM airspace, if not corrected or if manual control is not promptly established, may result in altitude deviation, and consequently, could lead to a possible mid-air collision or a near miss with aggressive evasive action (by either or both airplanes). Aggressive maneuvering at cruise altitudes and airspeeds could result in loss of control of the airplane and/or injury to passengers and crew.

### **FAA's Determination and Requirements of This AD**

The unsafe condition described previously is likely to exist or develop on other airplanes of the same type design. Therefore, we are issuing this AD to prevent unexpected disconnect of the

autopilot during operation in RVSM airspace, which could result in altitude deviation causing a mid-air collision or a near miss with aggressive evasive action (by either or both airplanes). Aggressive maneuvering at cruise altitudes and airspeeds could cause the airplane to exceed its structural limits, which could result in loss of control of the airplane and/or injury to passengers and crew. This AD requires revising the airplane flight manual to prohibit operation of the autopilot/flight director in command mode with performance management system selected on the speed mode switch during cruise in RVSM airspace.

### **Interim Action**

We consider this AD interim action. If final action is later identified, we may consider further rulemaking then.

### **Changes to 14 CFR Part 39/Effect on the AD Relating to Special Flight Permits**

On July 10, 2002, we issued a new version of 14 CFR part 39 (67 FR 47997, July 22, 2002), which governs the FAA's airworthiness directives system. The regulation now includes material that relates to altered products, special flight permits, and alternative methods of compliance (AMOC). This material is included in part 39, except that the office authorized to approve AMOCs is identified in each individual AD. However, as amended, part 39 provides for the FAA to add special requirements for operating an airplane to a repair facility to do the work required by an airworthiness directive. For purposes of this AD, we have determined that such a special flight permit is prohibited.

### **FAA's Determination of the Effective Date**

An unsafe condition exists that requires the immediate adoption of this AD; therefore, providing notice and opportunity for public comment before the AD is issued is impracticable, and good cause exists to make this AD effective in less than 30 days.

### **Comments Invited**

This AD is a final rule that involves requirements that affect flight safety and was not preceded by notice and an opportunity for public comment; however, we invite you to submit any relevant written data, views, or arguments regarding this AD. Send your comments to an address listed under ADDRESSES. Include "Docket No. FAA-2004-19815; Directorate Identifier 2004-NM-215-AD" at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of the AD. We will consider all comments received by the closing date and may amend the AD in light of those comments.

We will post all comments we receive, without change, to <http://dms.dot.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact with FAA personnel concerning this AD. Using the search function of our docket Web site, anyone can find and read the comments in any of our dockets, including the name of the individual who sent the comment (or signed the comment on behalf of an association, business, labor union, etc.). You can review the DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (65 FR 19477-78), or you can visit <http://dms.dot.gov>.

We are reviewing the writing style we currently use in regulatory documents. We are interested in your comments on whether the style of this document is clear, and your suggestions to improve the clarity of our communications with you. You can get more information about plain language at <http://www/faa.gov/language> and <http://www.plainlanguage.gov>.

## **Authority for This Rulemaking**

The FAA's authority to issue rules regarding aviation safety is found in Title 49 of the United States Code. Subtitle I, Section 106 describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the agency's authority.

This rulemaking is promulgated under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, the FAA is charged with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this AD.

## **Regulatory Findings**

We have determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that the regulation:

1. Is not a "significant regulatory action" under Executive Order 12866;
2. Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and
3. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a regulatory evaluation of the estimated costs to comply with this AD. See the ADDRESSES section for a location to examine the regulatory evaluation.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Safety.

## **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39—AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

**Authority:** 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

# AIRWORTHINESS DIRECTIVE



Aircraft Certification Service  
Washington, DC

U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

*We post ADs on the internet at "www.faa.gov"*

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

**2004-25-06 Boeing:** Amendment 39-13894. Docket No. FAA-2004-19815; Directorate Identifier 2004-NM-215-AD.

## Effective Date

- (a) This AD becomes effective December 22, 2004.

## Affected ADs

- (b) None.

## Applicability

(c) This AD applies to Boeing Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, and 747-300 series airplanes; and Model 747SP and 747SR series airplanes; certificated in any category; having variable numbers listed in Table 1 of this AD or modified in accordance with Supplemental Type Certificate SA960GL or SA1080EA-D; excluding airplanes on which Boeing Service Bulletin 747-34-2294, dated May 25, 1989, or Boeing Service Bulletin 747-34-2296, dated July 1, 1989, has been accomplished.

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**TABLE 1.—CERTAIN APPLICABLE  
AIRPLANES BY VARIABLE NUMBERS**

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RA521–RA528 inclusive.  
RA532–RA535 inclusive.  
RA537–RA548 inclusive.  
RA671–RA675 inclusive.  
RA677.  
RB071–RB075 inclusive.  
RB601–RB607 inclusive.  
RB681–RB685 inclusive.  
RB687.  
RB690–RB693 inclusive.  
RB695–RB697 inclusive.  
RB721–RB723 inclusive.  
RD055.  
RD082.  
RD083.  
RD221–RD227 inclusive.

RD231–RD235 inclusive.  
RD301.  
RD302.  
RD381–RD383 inclusive.  
RD461.  
RD601–RD607 inclusive.  
RD741.  
RD781–RD783 inclusive.  
RG173.  
RG174.  
RH101.  
RH102.  
RJ321.  
RJ322.  
RR024.  
RR025.  
RR261–RR263 inclusive.  
RR264–RR267 inclusive.  
RR361.  
RR362.  
RR451.  
RR522.  
RR526.  
RR551–RR556 inclusive.  
RR566.  
RS001.  
RS002.  
RS211.  
RS212.  
RS221.  
RS222.  
RS232.  
RS233.  
RS235.  
RS236.  
RS237–RS241 inclusive.  
RS251–RS259 inclusive.  
RS263.  
RS265–RS268 inclusive.  
RS292.  
RS311–RS320 inclusive.  
RS699.  
RS701–RS703 inclusive.  
RS711–RS713 inclusive.  
RS731.  
RS732.  
RS741–RS743 inclusive.  
RS771.  
RS786.

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## **Unsafe Condition**

(d) This AD was prompted by reports of unexpected autopilot disconnects induced by the passing of another airplane within 1,000 feet below the airplane while they were operating in reduced vertical separation minimum (RVSM) airspace. The FAA is issuing this AD to prevent unexpected disconnect of the autopilot during operation in RVSM airspace due to close passage of another airplane, which may result in altitude deviation, and consequently, could lead to a possible mid-air collision or a near miss with aggressive evasive action (by either or both airplanes). Aggressive maneuvering at cruise altitudes and airspeeds could result in loss of control of the airplane and/or injury to passengers and crew.

## **Compliance**

(e) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

## **Airplane Flight Manual Revision**

(f) Within 10 days after the effective date of this AD, revise the Limitations section of the Boeing 747 Airplane Flight Manual (AFM) to include the following statement. This may be done by inserting a copy of this AD in the AFM.

"Operation of the autopilot/flight director in command mode with Performance Management System (PMS) selected on the speed mode switch during cruise in Reduced Vertical Separation Minimum (RVSM) airspace is prohibited.

Use of PMS generated airspeeds and autopilot modes (e.g., IAS/Mach) with manually crew-entered airspeeds (via Mode Selector Panel) are allowed."

**Note 1:** When a statement identical to that in paragraph (f) of this AD has been included in the general revisions of the AFM, the general revisions may be inserted into the AFM, and the copy of this AD may be removed from the AFM.

## **Special Flight Permit**

(g) Special flight permits (14 CFR 21.197 and 21.199) are not allowed.

## **Alternative Methods of Compliance (AMOCs)**

(h) The Manager, Seattle Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested in accordance with the procedures found in 14 CFR 39.19.

## **Material Incorporated by Reference**

(i) None.

Issued in Renton, Washington, on November 30, 2004.

**Ali Bahrami,**

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 04-26792 Filed 12-6-04; 8:45 am]

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